Department for Energy Development and Independence

Stimulating Energy Efficiency in Kentucky

Fact Sheet #3: ACEEE Energy Efficiency Cost-Effective Resource Assessment for Kentucky

Purpose: American Council for an Energy Efficient Economy (ACEEE) quantified the volume of potential energy and economic savings that energy efficiency can generate in Kentucky, as well as by each main rate class (commercial, residential, and industrial). This analysis estimated the degree to which demand-side management and energy efficiency programs can help meet energy requirements, while reducing supply-side costs, lowering customer utility bills, and stimulating economic activity.

Key Findings:

- Efficiency is often the least-cost energy resource available; the annual savings potential of $1,599 million in electricity and $569 million in natural gas bills in the year 2030 and beyond can foster economic development and environmental health.

- Given Kentucky's energy efficiency cost-effective resource potential, under ideal circumstances, Kentucky could potentially save over 21,000 gigawatt-hours (GWh) of electricity and almost 50,000 billion British thermal units (BBtu) in natural gas by 2030.

  - These savings are enough to satisfy the electricity consumption of almost 1,200,000 homes and the natural gas consumption of almost 725,000 homes in Kentucky for one year.

  - These savings are equivalent to 19% of total projected electricity consumption in Kentucky in 2030 and 24.5% of total projected natural gas consumption.

  - This amounts to over $2.1 billion in total annual energy bill savings, or $1.6 billion and $570 million in annual electricity and natural gas bill savings, respectively.

- It is important to note that the results of this study represent the maximum, cost-effective efficiency potential for the state. A subsequent study by ACEEE will evaluate the *achievable* efficiency potential based on proposed policy and programs resulting from the Stimulating Energy Efficiency in Kentucky initiative.

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Potential for Energy Bill Savings by Sector (2030)

Sector	Electricity			Natural Gas		
	GWh	$/kWh*	Million$	BBtu	$/MMBtu*	Million$
Residential	7.787	$0.086	$669.7	12,356	$12.53	$154.8
Commercial	6,900	$0.078	$538.2	16,263	$11.38	$185.1
Industrial	6,411	$0.061	$391.1	23,629	$9.71	$229.4
Total	**21,098**		**$1,599.0**	**52,248**		**$569.3**

*Retail energy prices from DEDI 2011

Summary of Cost-Effective Energy Efficiency Potential By Sector (2030)

Sector	Electricity			Natural Gas		
	GWh	% +	% of Sector **	BBtu	% +	% of Sector **
Residential	7.787	7.1%	21%	12,356	5.8%	30%
Commercial	6,900	6.2%	28%	16,263	7.6%	45%
Industrial	6,411	5.8%	13%	23,629	11.1%	17%
Total	**21,098**	**19.1%**		**52,248**	**24.5%**	

+ Savings are represented as a percent of the total projected energy consumption in 2030.
**Savings are represented as a percent of the projected energy consumption in that sector in 2030.